The Interlinking of Rivers Project in India and International Water Law: An Overview

Abu Raihan M. Khalid*

I. Introduction

There are 261 watersheds that cross the political boundaries of two or more countries. These international basins cover 45.3 percent of the land surface of the earth, host about 40 percent of the world's population, and account for approximately 60 percent of global river flow.

Rivers are the cradles of human civilizations; water is life. But in the Indian subcontinent, it is more than life. Here, river is divine; River is Goddess. Rivers and river water have always played the central role in the economic and cultural development of the Indian subcontinent. A growing population and the recent accelerated economic activities in this region have made water resource management more complicated in this area. More than 500 million people live in the Ganga (Padma in Bangladesh)-Brahaputra-Meghna basin. The region comprises some of the world's most fertile lands of the world. Proper utilization of natural resources can change the lives of many in this area.

Water sharing of Padma (Ganga), Brahmaputra, and Meghna has always given rise to dissatisfaction, disbelief and dispute among the four stakeholders: Bangladesh, Bhutan, India and Nepal. The Indian Government's recent plan to interlink 37 major rivers of this area in order to divert their flow to south and southwest India has again brought tension to the people of the region. People from every sector of the society, including scientists, environmentalists, journalists and politicians, have shown their concern regarding this devastating plan. After discussing the project with relevant scientists and policy makers, John Vidal,[1] the environment editor of the leading English daily "the Guardian", said that if the project is implemented, the livelihood of 100 million out of the 130 million people of Bangladesh will be permanently damaged. Damage will occur to the agriculture, forestry, and fishery of Bangladesh and adjacent areas; hundreds and thousands of people will lose their jobs and will migrate to the city slums. Sunderban, the world's biggest mangrove forest, will become extinct, while fertile coastal areas of the region will turn saline and barren.

It is the Indian people who first protested this mega project—with investment of about US$200 billion, the biggest Indian project ever. Political leaders from Bihar, Assam, and other areas strongly voiced their concern and determination to fight against the plan. A student organization from Bihar said that they would rather give their blood than the water of the Jamuna River. Medha Patkar of the Narmada

---

* Abu Raihan M. Khalid worked as a staff Lawyer for the Bangladesh Environmental Lawyers Association (BELA) (www.belabangla.org) and is a member of the Environmental Law Worldwide Organization (www.elaw.org). He is currently pursuing higher legal education in the United Kingdom. This paper was completed on 4 October 2004.

1 John Vidal, The Guardian, 24 July 2003.

Bachaon (save the Narmada River Movement) said that there is no good for anybody in this project; the project only serves political interests and other vested interest groups. Protest came from Nepal and Bangladesh; the Minister for Agriculture of Bangladesh said, "It will be impossible to sustain without river water, if we lose the production of rice, I don't know what we will do!"[2]

In this effort, our aim is to assess the current international legal regime governing transboundary watercourses, using the recent river-linking plan of the Indian Government as a case study.

I.A. Water in Bangladesh and India

Bangladesh

Within an area of 144,000 square kilometers, Bangladesh has a population of 130 million. It is one of the most densely populated areas in the world. Bangladesh is a live delta; its rivers are its blood veins. Hosting a network of nearly 230 rivers, tributaries and distributaries cover Bangladesh; 57 of these rivers are transboundary. The Padma (Ganga in India), Meghna and Brahmaputra are the major river systems of the country. Together, the basins of these three rivers form the flood plain of Bangladesh, which comprises nearly 80% of the total area of the country.

India

India is a land of many rivers. Its geographical area of about 3.29 million km^2 is criss-crossed by a large number of small and big rivers. The annual precipitation including snowfall is estimated to be 4,000 km^3. By the latest estimates of the Central Water Commission, considering both surface and ground water as one system, natural run off in the rivers is about 1,869 km^3/year. India shares many transboundary rivers with Bangladesh, Bhutan, China, Nepal and Pakistan. In some cases India is the lower riparian, as in relation to China and Nepal, while in some cases it is the upper riparian, as with Bangladesh.

II. The Project

II.A. The plan

In 1980, the Indian Ministry of Water Resources produced the "National Perspective Plan" in order to transfer water from one region to another. The National Water Development Agency (NWDA) was established under that Plan to complete the feasibility studies of the proposed links. After detailed studies, the NWDA selected 30 link canals for final feasibility study and completed final reports for 6 of those link canals. The National Perspective Plan comprises two components: Himalayan Rivers Development and Peninsular Rivers Development. The Government of India formed a Task Force under the Presidency of Suresh Pravu,

---

2 Hafiz Ahmad (the Water Resources Minister of Bangladesh), The Guardian, 24 July 2003.

leader of Rashtriya Swayamsevak Sangh (RSS).[3] The said Task Force has an official time frame, which ends in 2016, to implement the Project.[4]

In the meantime, the Supreme Court of India directed the Government to complete the project by 2012.[5]

II.B. Its impact

Despite the Indian Government's claims that the project will boost Indian agriculture and will make the country able to face the challenge of increasing population, scientists and environmental experts view the project as posing a great threat to the environment and ecology of the whole region. Some environmental groups in India have come out against the project. According to *Jayanta Bandopadhya*, of the Centre for Development and Environment Policy at the Indian Institute of Management in Kolkata, arresting the natural flow of rivers on a gigantic scale could sound "the death knell" for mangroves in the delta region of West Bengal and Bangladesh[6] because mangroves require the steady rise and fall of the sea level so that their roots can breathe. Once this process is disrupted, the world could "lose the richest fisheries in South Asia". Salinity would also make inroads into the region, affecting thousands of hectares of arable land. Furthermore, thousands of fishermen would be jobless if the river link project is implemented. Mr. Bandopadhya also

---

3 A Hindu rightwing organization in India.

4 Milestone dates/Time Table for Interlinking of Rivers:

(i) Notification of the Task Force	By 16.12.2002
(ii) Preparation of Action Plan-I, giving an outline of the time schedules for the completion of the feasibility studies, detailed project reports, estimated cost, implementation schedule, concrete benefits and advantages of the project, etc.	30.4.2003
(iii) Preparation of Action Plan-II, giving alternative options for funding and execution of the project as also the suggested methods for cost recovery	31.7.2003
(iv) Meeting with the Chief Ministers to deliberate over the project and to elicit their cooperation	May/June, 2003
(v) Completion of Feasibility Studies (already in progress)	31.12.2005
(vi) Completion of Detailed Project Reports. (Preparation of DPRs will start simultaneously since feasibility studies in respect of six river links have already been completed)	31.12.2006
(vii) Implementation of the Project (10 years)	31.12.2016

5 Writ Petition (Civil) No. 512/2002, "In Re: Networking of Rivers", October 31, 2002.

6 Bandapadhaya, Joyonta and Perveen, Shama: The Interlinking of Indian Rivers: Some Questions on the Scientific, Economic and Environmental Dimensions of the Proposals, Occasional paper No. 60, SOAS Water Issues Study Group, University of London, June 2003.

pointed to another vital anomaly of the whole affair when he said, "Science needs open assessment" and made a strong case for putting all initial reports in the public domain so that scientists could assess the pros and cons of the project. As of now, the public is not even aware of what studies are being commissioned and who is conducting them.[7]

II.C. List of Possible effects of withdrawal of water from the major rivers

Scientists, scholars, policy-makers and interested observers generally believe that the possible effects of withdrawal of water from major rivers include:

- Loss of plankton, flora and fauna; i.e. dramatic decrease of fish in delta front (beyond Sri Lanka).
- No new land will be reclaimed from the Bay of Bengal. The Bengal delta, millions of years old, will begin to erode.
- Coastal erosion and saline water intrusion; i.e. upstream water diversion in Bangladesh includes saline ingress through the lower Meghna, extending as far as the haor basin of Sylhet[8] (northeast Bangladesh).
- Almost all cities, industries and agriculture of the Ganges-Brahmaputra basin dispose of untreated effluents to rivers. Without fresh water influx, a poisonous cocktail of biological and inorganic poison will displace ten per cent of the global population.
- Flood and tidal storms will displace millions of people.
- The reduction of flow in Atrai, Karatoya and Teesta (all distributaries of Brahaputra) could spell disaster for the rainfall-deficient Northwestern hydrologic region. Wetland and groundwater recharge capacity would also decrease in the Brahmaputra Dependent Area.
- The decrease in the flow of Brahmaputra (Jamuna) within Bangladesh would adversely affect the flow of the distributaries in the North-Central hydrologic region. The amount of Jamuna water reaching the Ganges at Goalundo would also diminish, thus adversely affecting the distributaries of the South-Central hydrologic region.
- The extinction of Sunderban (Flora and Fauna), the world's largest mangrove forest.
- Unknown ecological disaster, as we have very small scientific knowledge on tropical rivers and consequences due to plate movement (seismic activities) and water withdrawal.[9]

---

7 Darryl D'Monte, The Hindustan Times, 19 August 2003.

8 A low-lying water body found in North and Northeast Bangladesh. A large part of a haor becomes dry in the winter season. In certain areas, dry fertile haors provide the only rice crop of the year. In all other times, haors are great sources of fish, providing necessary protein and cash money to the locals. They are usually very rich in biodiversity. One of these haors is a "Ramsar" site.

9 Please see www.sos-arsenic.net/english/groundwater/waterbattle.html.

III. Water diplomacy in the GBM region

The legacy continues: looking back into the water diplomacy in the GBM region

Until recently, river development activities in the Ganga-Brahmaputra-Meghna (GBM) region were mainly focused on the Ganga River. India decided to construct the Farakka Barrage[10] on the Ganga River in 1951. "The purpose of the Barrage was to ensure that the Hooghly River would receive, however low the flow of the Ganges may be, up to 40,000 cubic feet per second (cusec) of water diverted from the Ganga".[11] With the assumption that the availability of water in the Ganga in the worst lean season would be around 50,000 to 55,000 cusec, the remaining 10,000 to 15,000 cusec would be released to East Pakistan (now known as Bangladesh).

In the first phase of the diplomatic exchange, India would not recognize that East Pakistan had any claim on the waters of the Ganga or even any need for it. Occasionally, talks between India and Pakistan over the Farakka Barrage took place, but no serious discussion or negotiations at a high level were conducted.[12] "India has maintained for much of the dispute that the Ganges is not an International River".[13]

It should be recalled that during that period, negotiations between India and Pakistan over the Indus River, which were mediated by the World Bank, were progressing well and successfully resulted in a treaty.

Farakka Barrage was almost completed by the time Bangladesh became independent in 1971. The independence of Bangladesh was the result of a long struggle of the people of Bangladesh, which started almost immediately after the independence of the Indian subcontinent from the British colonial rule in 1947. The ongoing struggle was first manifested in the form of the language movement of 1952 and ended in the war of independence. India was nearly the only country to help Bangladesh in achieving its independence and in rebuilding the country after the devastation of the war.

The next phase of the dispute thus started with a distinct inequality between the parties in terms of bargaining power; one party of the dispute, Bangladesh, had an enormous burden of being grateful to the other party of the dispute, India, for

---

10 Actual work on the Barrage started in 1961 and was completed in 1971. The Barrage is about 2,240 meters long. The feeder canal from the Barrage is about 25 miles long and was completed in 1975. The Barrage went in to operation on 21 April 1975.

11 Salman M.A. Salman and Kishor Uprety, Conflict and Cooperation on South Asia's International Rivers, A legal Perspective, The World Bank, 2002, p. 136.

12 M. Shah Alam, Farakka Barrage: Laws and Politics, Vol. 4, No. 4, BIISS Journal, 1983, and India's River Linking Plan and Post-New Delhi JRC Meeting Imperatives for Bangladesh, The Bangladesh Observer, November 4, 2003.

13 Ben Crow, Sharing the Ganges: The politics and Technology of River Development, New Delhi, Sage Publications, 1995, p. 84.

However, despite the contention that the Ganga is not an international river and as such is not subject to international negotiations, on March 26, 1956, India denounced the "International Convention and Statute Concerning the Regime of Navigable Waterways of International Concern, 1921". M. J. Bowman and D. J. Harris, Multilateral Treaties: Index and Current Status, London, Butterworth, 1984.

helping it in its war of independence. This inequality was evident in the negotiation process, which took place just after 1971.[14]

The Joint River Commission[15] was established; it held its first meeting on June 26, 1972.

On April 21, 1975, Farakka Barrage came into operation for a test running period of 41 days. [16]

The next phase started after the assassination of Seikh Mujibur Rahman, leader of the war of independence, on August 15, 1975.[17] India continued withdrawing water from the Ganga using the full capacity of the feeder canal and giving no consideration to the "test running period" or the "partial Accord" nature of the arrangement.

Bangladesh took the matter to the UN[18] and prepared a "White Paper" explaining its case.[19] Following the "Consensus Statement"[20] from the UN General Assembly, talks between the two countries resumed in December 1976 and resulted in the first ever Agreement[21] on water sharing between the parties.

The 1977 Agreement expired in 1982. Two Memorandums of Understandings (MOUs), one in 1982 and the other in 1985, regulated the water sharing afterwards. The sharing of water of the Ganges was not regulated between 1988 and 1996.[22]

It has to be mentioned here that Bangladesh has always tried to include the

---

14 Another observer put it, "The Bangladesh authorities were clearly in a difficult position. They had been assisted militarily and economically by India during and after the struggle for independence…at the same time Bangladesh was watching as India was completing the Farakka Barrage and starting the work on the feeder canal that would divert most of the lean season flow of the Ganges away from Bangladesh to the Hooghly River. There was not much that Bangladesh could do…" Salman M.A. Salman and Kishor Uprety, supra, at 138.

15 For Statutes of the JRC, see Statute of the Indo-Bangladesh Joint Rivers Commission, in Avtar Singh Bhasin, India Bangladesh Relations, 1971-1994, Documents, vol. 1, Delhi, Siba Exim Pvt. Ltd., 1996, at 33.

16 Salman M.A. Salman and Kishor Uprety: "Bangladesh culminated its acceptance of the barrage, not only through an accord, but it also sent a delegation to attend the inauguration of the Farakka Barrage", supra, at 140.

17 Seikh Mujibur Rahman, leader of the then ruling party 'Bangladesh Awami League' and leader of the 1971 liberation struggle.

18 Bhasin, Press Conference on Bangladesh's decision to raise the Farakka issue at the United Nations said, "it is not that we do not believe in bilateral discussions, but because we can not wait indefinitely, we want an expeditious solution to Farakka before the next dry season", supra.

19 For the full text of the White paper, see Bhasin, supra.

20 For the text of the 'Consensus Statement' see UNGA, A/SPC/31/7, dated 24 November 1976; see also B.M. Abbas, The Ganges Water Dispute, The University Press Limited, Dhaka, 1982.

21 Agreement between the Government of the Republic of India and the Government of the Peoples' Republic of Bangladesh on Sharing of the Ganga Waters at Farakka and on Augmenting its Flows, 17 I.L.M.103 (1978).

22 For a detailed account of the water related diplomatic exchange between India and Bangladesh, see B.M. Abbas, n.20 above.

other riparian of the Ganges and Brahmaputra, namely Nepal and Bhutan, in discussions, while India has always declined such proposals[23], preferring to keep the matter "bilateral".[24]

IV. The Ganges Treaty Regime

1996 has so far been the most important year for water diplomacy between India and Bangladesh. There were new governments in both countries. For the first time, a Treaty[25] was signed between the countries which will last for a period of thirty years and, also for the first time, the Treaty was signed by Prime Ministers from both sides.

The Treaty has twelve articles and two annexes. The salient features are as follows:

IV.A. Sharing of water

The 1996 Treaty establishes a new formula for sharing the Ganges waters at Farakka in the dry season (1 January to 31 May), also providing that below Farakka the waters are not to be reduced further except for "reasonable use" in a limited amount (Article III). The new arrangement is as follows:

- During the period from 1 March to 31 May, the sharing will be on the basis of a so-called hydraulic cycle, where one side will have 35000 cusec (cubic feet per second) guaranteed flow and the other side will receive the rest of the flow. In a cycle where the flow is 50,000 cusec, India will receive 35,000 cusec and Bangladesh will receive 15000 cusec.
- When the flow falls below 50,000 cusec no sharing principle will exist; Bangladesh and India will sit immediately to decide equitable sharing.
- The sharing arrangements are to be reviewed every five years and if no agreement can be reached on adjustments, India is to release at least 90% of Bangladesh's share as provided by Article II.

Despite what is said in the provisions of the Treaty, experts in Bangladesh assert that the actual proportion of sharing between Bangladesh and India is 45:55

---

23 During the 11th meeting of the Joint River Commission held in New Delhi on 28th September 1974, Bangladesh proposed a plan to India of constructing a series of storage dams along the higher reaches of the Ganges on the Indo-Nepalese border in order to store water during the monsoon season and release it in the dry months for the benefit of both countries. Dr. M. Rafiqul Islam, The Long Term Resolution of the Ganges water Dispute; BIIS Journal, Bangladesh Institute of International and Strategic Studies. Dhaka, Bangladesh. Volume 4, Number 3, 1983, at 4, 5.

24 Bhaduri, Anik & Edward B. Barbier, Department of Economics and Finance, University of Wyoming: Water Transfer and International River Basin Cooperative Management, The Case of the Ganges, 17 July 2003.

25 The Ganges Treaty: 1996, 36 International Legal Materials 523, 1997.

and in some cases the proportion will be 30:70. [26]

It is interesting that the Treaty is overwhelmingly concerned about sharing water in the lean flow periods. It does not recognize the fact that the said River poses a two pronged problem for the region; namely, the water scarcity in the lean season and severe floods in the monsoon season. The upstream country, India has showed substantial efforts to ensure its control on the lean season flow, but has undoubtedly failed to demonstrate the same degree of enthusiasm to get its proportionate share of the devastating monsoon season water flow.

IV.B. Institutional mechanism within the Treaty

1. Article (IV) establishes a Joint Committee, which will be constituted of an equal number of members appointed by both governments. Article (V) allows the Joint Committee to draw its own working rules. Article (VII) deals with the dispute settlement mechanism in the Treaty: "Any difference or dispute arising in this regard, if not resolved by the Joint Committee, shall be referred to the Indo-Bangladesh Joint Rivers Commission. If the difference or dispute still remains unresolved, it shall be referred to the two governments which shall meet urgently at the appropriate level to resolve it by mutual discussion". [27]

2. Article IX of the Treaty says, "Guided by the principles of equity, fairness and no harm to either party, both the Governments agree to conclude water-sharing Treaties/Agreements with regard to other common rivers".[28]

It is worth mentioning that the water is being shared at Farakka point, which is just 14 kilometers up the Bangladesh border. The Ganges basin is one of the most densely populated river basins in the world; water from the river is being used throughout the whole of the 80% of the total length of the River before even reaching the Farakka point.

One implementation aspect: it is surprising that there is not a much stronger institutional mechanism, especially considering that one party of the Treaty—India—has had such a mechanism working smoothly for nearly half a century with its arch-rival, Pakistan, in the Indus River Treaty.[29] Here, the primary power to settle any dispute between the parties is given to the Joint River Commission (JRC) which, according to its Statute is supposed to meet twice every year. In actuality, the JRC has been almost ineffective for a long period and sits only occasionally. The real dispute settlement power, in the absence of any body with judicial capacity, is given to the political authority of the two countries which again, as we have seen, are unlikely to come up with real solutions acceptable to both countries, considering the huge difference in the countries' bargaining power.

---

26 Engineers Association of Bangladesh 1997.

27 Article VII, Treaty Between the government of the Republic of India and the government of the People's Republic of Bangladesh on Sharing of the Ganga/Ganges Waters at Farakka, signed 12 December 1996.

28 Ibid, Article IX.

29 See Article VIII on Permanent Indus Commission, Indus Waters Treaty, signed in Karachi, 19 September 1960.

Though planners of the Treaty did not have the river-joining project in mind, the Treaty does have implications on the project. The imperative emanated from Article IX of the Treaty to conclude other treaties with regard to other common rivers is violated by this Project, as India is proceeding unilaterally without paying due consideration to the principles of equity, fairness and no harm to either party mentioned in the Article.

From a water sharing perspective, the Project again violates the Treaty as it is intended to divert water from the Ganges before the water reaches the Farakka point where the water share is measured now.[30] It can be easily concluded that the coexistence of the Project and the Treaty is not possible, as proper implementation of the Treaty does not allow such a project and the Project, if implemented, would make the Treaty completely irrelevant.

With this backdrop in mind, we must now consider what options international law might offer to mitigate an anti-environment and anti-people project of this scale.

Though Article (IX) of the Treaty of 1997 provides that both Governments will conclude other treaties to share water of other common rivers guided by the principles of equity, fairness and no harm to either party, India never informed Bangladesh about this mega project to develop all 54 major rivers between the two countries. The outline of the Project was first mentioned in the Independence Day speech of the Indian President on 14 August 2002. In response to a petition filed by Amices Curiae on 31 October 2002, Judges of the Supreme Court of India, led by the then Chief Justice B. N. Kripal, asked the government to link the rivers by the year 2012.

The Indian Prime Minister announced on 15 August 2003 that the project to link all major rivers of the country would start by the end of this year. A Joint River Commission Meeting was due on October 2003 and the Government of Bangladesh proposed to include the Project in the agenda. On 30 September 2003, the Water Resources Minister of India informed Bangladeshi officials that its proposal to link the rivers was only at a "conceptual stage". Yet, following insistence from the Bangladeshi side, India agreed to include the issue in the agenda, though only under the "miscellaneous" head. In that meeting, India only reiterated its position by saying that the Project is still at an amorphous stage.

The apex court, in its latest order of 10 November 2003, has asked the Central Government to give a status report detailing the progress made in the river networking project to link major rivers by 2016.

Even this clear violation[31] of the treaty article could not be challenged by the aggrieved party, as there is no such effective dispute settlement procedure included in the Treaty. The preamble of the treaty also contains a caveat to the effect that this Treaty does not establish any principles or precedent of law, which, in Salman's opinion, is the result of Indian insistence.[32]

---

30 Article II, The Ganges Treaty 1997.

31 Paragraph 2, 3; page 10 supra.

32 Salman M.A. Salman and Kishor Uprety, supra.

V. The International Legal Regime

V.A. 1997 UN Convention

The United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses[33] was adopted by the UN General Assembly in Resolution 51/229 of 21 May 1997. The 37-article Watercourses Convention and its 14-article annex govern the non-navigational uses of international watercourses, as well as measures to protect, preserve and manage them. Viewed as a framework Convention, it addresses such issues as flood control, water quality, erosion, sedimentation, saltwater intrusion and living resources. This Convention is a major step forward in the rather slowly developing field of international water law. Before this Convention, the only set of rules to mention was the 1966 Helsinki Rules on the Uses of the Waters of International Rivers.[34] But the Helsinki Rules lacked the endorsement of any inter-governmental political body, as it was adopted by the International Law Association. Bangladesh voted for the Convention whereas India abstained from voting. The Convention is not in force yet (as of 21 July 2004); it requires 35 ratification documents to be submitted in order to come into force.

V.B. Principles in International Water Law

While the UN Convention is not in force yet, international water law in general contains customs and principles of international law, which have been refined by the work of international judicial bodies and scholars throughout time. As there was no authoritative set of rules to govern business in this area, it is these principles which play the most important role.

Among these various principles there is the principle of absolute territorial sovereignty. According to this principle, a state has absolute control over all natural resources within its territory and can do whatever it wants regardless of the transboundary consequences of such action. The principle of absolute territorial sovereignty is often said to have the same properties as the infamous "Harmon Doctrine".[35] The principle has been effectively abandoned by international judicial

---

33 United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses, 21 May 1997, 36 ILM 700. The United Nations General Assembly on December 8, 1970 adopted Resolution 2669 (XXV) asking the International Law Commission (ILC) to study the topic of international watercourses. The ILC started working on the draft Convention at its twenty-third session in 1971, and completed its work and adopted the articles of the draft convention on June 24, 1994, and recommended the draft articles to the General Assembly on that date. The Convention was adopted by the General Assembly on 21 May 1997, by a vote of 103 for, and three against, with 27 abstentions; 52 countries did not participate in the voting.

34 International Law Association, Report of the Fifty-Second Conference, Helsinki, 1996, at 486.

35 The opinion given by the Attorney General of the United States, Mr. Judson Harmon, in 1895 regarding a dispute with Mexico over the utilization of the waters of the Rio Grande

bodies, with examples in 1941 in the *Trail Smelter* arbitration, in 1949 by the ICJ in the *Corfu Channel* case and again in 1957 by the Arbitration Tribunal in the *Lake Lanoux* case.[36]

With sharp contrast to the above principle stands the principle of the absolute territorial integrity. This principle says that lower riparian states have the right to the continuous or natural flow of a river flowing from upper riparian states. The upper riparian is allowed to utilize the resource in such a manner as not to affect the natural flow of the river in to the lower riparian country. Quite understandably, this principle never received much support, though, according to some commentators,[37] it has a firm root in common law water rights.

According to the principle of the obligation not to cause appreciable harm, customary international law obligates states not to use, or to allow the use of, their territory for acts contrary to the rights of other states. This principle, often expressed as *sic utere tuo ut alienum non laedas*, receives wide recognition today as a general principle of international law. It is applied in numerous international treaties, declarations, and other international instruments.[38] This principle was employed in the *Trail Smelter* arbitration, which involved transboundary air pollution litigation between the United States and Canada.

The principle of reasonable and equitable utilization developed as the equitable apportionment rule, first articulated in the U.S. by the Supreme Court in 1902 and 1907. The adoption of the rule of "reasonable and equitable utilization" in international legal discourse began to appear more prominently in the 1960's. At the time of the Columbia River controversy, important declarations by non-governmental organizations, made up of international legal experts, had identified reasonable and equitable utilization as the legal rule governing the uses of international drainage basins. The 1966 International Law Association's (ILA) Helsinki Rules, adopted after the conclusion of the Columbia River Treaty, provide a list of factors used to determine the reasonable and equitable share of an international watercourse. The 1997 UN Watercourses Convention, adopted by the United Nations General Assembly, contains provisions for the reasonable and equitable utilization of an international watercourse as its principal norm.

The "community of interests" theory[39] goes a step beyond the principle of

---

concluded that there was no settled and recognized right "by which it could be held that the diversion of the waters of an international boundary stream for the purpose of irrigating lands on one side of the boundary and which would have the effect to deprive lands on the other side of the boundary of water for irrigation purposes would be a violation of any established principle of international law". See 21 Op. Att'y Gen. 274, at 283 (1895).

36 See D.J. Harris, Cases and Materials on International Law, fifth edition, London, Sweet & Maxwell, 1998, for a general discussion on these cases.

37 Ludwik A. Teclaff, Water Law in Historical Perspective, Buffalo, New York, W. S. Hein, 1985, at 6-20, et al.

38 The Stockholm Declaration, for example.

39 "In the present case, it is enough to go back to the general principles of international river law to find that, if the right of upstream States to free access to the sea has, as Poland maintains, played a considerable part in the formation of river law, the basic concept

reasonable and equitable utilization in that it advances the goal of the most optimal use and development of a transboundary water resource system. Founded on the principles of "natural law", it ignores all national boundaries and regards the entire hydrologically connected water system as a single economic and geographic unit. The concept is sometimes thought to be a constituent element of the equitable utilization principle.[40] In other instances, it was accepted as a principle and worked as the basis of international instrument, for example in the Bellagio Draft Treaty.[41]

In the *International Commission of the River Oder* case, the Permanent Court of International Justice referred to this principle where it said the "community of interest" in a navigable river becomes the basis of a common legal right, the essential features of which are the perfect equality of all riparian States in the use of the whole course of the river and the exclusion of any preferential privilege of any one riparian State in relation to the others.[42]

The precautionary principle, which is the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States (and of areas beyond national control), was affirmed by the International Court in its advisory opinion on the Legality of the Threat or Use of Nuclear Weapons in 1996.[43]

There is a duty of states to cooperate with each other in mitigating transboundary environmental risks.[44] The ILC has adopted draft articles involving

---

which dominates this area of law is that of a community of interests of riparian States which in itself leads to a common legal right. This concept is found already in the Act of the Congress of Vienna of June 9th, 1815 and it has inspired subsequent instruments", Case Relating to the Territorial Jurisdiction of the International Commission of the River Oder, PCIJ, Series A, No. 23, Judgment of 10 September 1929, ___[page number]

The concept, which is yet to become a full-fledged principle of international water law although its origin is in navigational use of transboundary watercourses, is well accepted in transboundary groundwater law. For example, in the Bellagio Draft Treaty 1987, Article II provides that "the parties have entered into this Agreement in order to attain the optimum utilization and conservation of transboundary groundwater...." For a general discussion, see Jerome Lipper, "Equitable Utilization," in The Law of International Drainage Basins, Garretson et al., eds., 1967.

40 Patricia Birnie & Alan Boyle, International Law & the Environment, Oxford University Press, second edition, 2002, at 302.

41 The Draft Treaty was the product of the United States-Mexican Transboundary Resource Study Group formed in 1977 to resolve transboundary water issues of the region. The first study group met in Oaxtepec, Mexico and subsequent groups met in Puerto Vallarta and Ixtapa, Mexico. The meeting leading to the framing of the Bellagio Draft was held in 1987 in Bellagio, Italy.

42 River Oder case, n.39 above, 27. The reference by the Permanent Court of International Justice to "international fluvial law in general" led many scholars, including Jerome Lipper, to conclude that the notion of "the equality of riparians" enunciated by the court goes beyond navigation and applies equally to non-navigational use of international water.

43 ICJ Reports 1996, p.226 at pp. 241-2, para. 29, and also Rio Declaration (1992), 31 ILM 874, principle 2. Though originated in pollution cases, it is gaining the status of a general norm of international environmental law.

44 Ian Brownlie, Principles of Public International Law, fifth edition, Oxford University Press, 1998, at 286.

certain mild procedural obligations for states engaging in activities which create a risk of causing significant transboundary harm.

V.C. The Berlin Rules 2004 and the 1997 UN Convention: a closer look

The Berlin Rules on Water Resources ("Berlin Rules") were intended to replace the 1966 Helsinki Rules on the Use of Waters of International Rivers[45]. It is worth remembering here that like it's predecessor (the Helsinki Rules 1966), the Berlin Rules 2004 does not have any political endorsement backing it. But at the same time the preface of the set of articles enunciate that it is nothing but an amalgamation of customary international law in the area, some are just less well established than the others.[46] In that sense Berlin Rules do not want to introduce any new principle of law, it rather tells us what the law is.[47]

It is also mentionable that the Helsinki Rules was introduced by the same body, the International Law Association (ILA), in 1966 and for over thirty years was the only set of rules to work as a guideline for stakeholders in water management before the UN Convention came into being in 1997. So, in a sense, the Helsinki Rules 1966 paved the way for the UN Convention 1997. Now, while the UN Convention has proper political endorsement (it is approved and accepted by several states) and achieved certain authority and command through the International Court of Justice (ICJ) decision in the famous *Gabcíkovo-Nagymaros Project* case, as discussed below, it is not in force yet. The spectrum of water management has undergone rapid change recently. Water has become the new "oil", so to speak. The increasing demands for freshwater for household and agricultural and industrial consumption and the sheer scarcity of it in many parts of the world rendered the world to think about it in a totally new way. The consideration of environment in water management opened a whole new horizon. "Individual" has gained significant importance in international law and water rights of individuals has become an issue to address both at national and international level.

The Berlin Rules 2004 appreciates and embodies the priorities of today and venture to map the priorities of tomorrow. While we still await the enforcement of the first UN Convention in watercourses management, the Berlin Rules 2004 would

---

45 International Law Association's Berlin Conference (2004). Water Resources Law Committee: Revision of the Helsinki Rules and Other International Law Association Rules on Water Resources (The Berlin Rules on Water Resources), Fourth Report, (August 21, 2004) (available at: www.ilq-hq.org).

46 "These *Rules* also undertake the progressive development of the law needed to cope with emerging problems of international or global water management for the twenty-first century", Preface, The Berlin Rules 2004.

47 "Most of these *Rules* are firmly based in generally recognized customary international law. Most were codified in the earlier work of the Association and its Water Resources Committee, in the *UN Convention,* in various *Draft Articles* by the International Law Commission, or in other treaties relating to international environmental law or international human rights law, as well as in numerous bilateral and regional treaties relating to waters. Many of the *Rules* have been confirmed by judgments of the international or national tribunals", Usage note, Berlin Rules 2004.

provide with necessary aid in interpreting and understanding it.[48]

Article 2(a) of the UN Convention defines a "watercourse": "'Watercourse' means a system of surface waters and groundwaters constituting by virtue of their physical relationship a unitary whole and normally flowing into a common terminus". The inclusion of "groundwater" in the definition of a watercourse signals a giant leap towards considering the whole ecosystem dependent on that river/watercourse as a single unit,[49] and now is included in the Berlin Rules; Article 3(1) states "Aquatic environment" means all surface waters and groundwater, the lands and subsurface geological formations connected to those waters, and the atmosphere related to those waters and lands". Both the Berlin Rules and the UN Convention used equitable utilization as the main guiding principle in the sharing of waters of international watercourses, though the Berlin Rules merged the "no harm" principle into it.[50] Both emphasized the use of a strict dispute settlement procedure.

The UN Convention is particularly mentionable in this regard. Article 33 of the Convention deals with dispute settlement. In rigorous detail, it explains the procedure to follow where there is no existing dispute settlement procedure between the parties. This procedure includes a third party involvement in the settlement procedure and referral to the UN for assistance with selection of the third party, where appropriate. It is mentionable here that this third party involvement in the dispute settlement procedure is but the recognition of the obstacles faced by countries, especially in cases where the bargaining power is unequal between the parties, as we have found in our present case.[51] It is not surprising that countries with

---

48 "The Committee undertook to summarize the current state of the relevant customary international law for three reasons. First, none of the most disputed internationally shared fresh waters are covered by an agreement among all the interested States. Second, the process of ratification of the *UN Convention* has been slow. States will need to continue to apply customary international law, and there are questions as to whether the *UN Convention* always correctly states that law"; Preface, The Berlin Rues 2004.

49 This point is particularly important for many transboundary water disputes, as in our present case. A study by the Bangladesh Ministry of Water Resources showed that the groundwater table in the Ganga dependant region has fallen significantly as a result of the diversion of water from the River at Farakka Barrage point. According to some, this fall in the groundwater table combined with the increased use of groundwater for irrigation (the reduced flow of the Ganga River in the winter season is not able to meet the needs of the region) resulted in the world's worst case of arsenic contamination of groundwater in Bangladesh; see A.T.M. Shamsul Huda, Constraints and Opportunities for Cooperation towards Development of Water Resources in the Ganges Basin, Sustainable Development of the Ganges-Brahmaputra-Meghna Basins, edited by Asit K. Biswas and Juha I. Uitto, United Nations University Press, 2001, at 49, et al.

50 Article 12, Equitable Utilization, 1. Basin States shall in their respective territories manage the waters of an international drainage basin in an equitable and reasonable manner having due regard for the obligation not to cause significant harm to other basin States.
2. In particular, basin States shall develop and use the waters of the basin in order to attain the optimal and sustainable use thereof and benefits therefrom, taking into account the interests of other basin States, consistent with adequate protection of the waters, The Berlin Rules 2004.

51 Chapter III: Water diplomacy in the GBM region, supra.

comparative advantageous bargaining positions, including India, vehemently opposed this provision[52] (even though India itself is a beneficiary of third party involvement in the negotiation process in its Indus Water Sharing Treaty with Pakistan[53]).

Unlike most bilateral treaties,[54] the UN Convention has provisions for dealing with pollution of a watercourse. Even in 1966, the Helsinki Rules introduced the pollution clause,[55] though states showed none or very little awareness in this regard. Article 21 of the UN Convention says, "For the purpose of this article, 'pollution of an international watercourse' means any detrimental alteration in the composition or quality of the waters of an international watercourse which results directly or indirectly from human conduct". The Convention is somewhat lenient in its approach towards the mitigation and/or control of pollution of international watercourses; Article 21 states, "Watercourse States shall, individually and, where appropriate, jointly prevent, reduce and control the pollution of an international watercourse…" It is worth mentioning that it does not advocate any mandatory pollution monitoring and mitigating mechanism; rather, it would not be inappropriate to conclude that the Convention promotes individual measures in case of pollution and deals with pollution, in general, inadequately.[56]

V.D. A new dimension: The ICJ decision in the Gabcíkovo-Nagymaros case.

A new dimension has been added to the regime of the international watercourses law in 1997 by the International Court of Justice (ICJ) in *Gabcíkovo-*

---

52 United Nations General Assembly Press Release GA/9248. India's official reservation includes, among other things, that "[a]ny mandatory third-party dispute procedure was inappropriate and should not be included in a framework convention".

53 The World Bank was the "Third Party" in that negotiation and the then-WB President Robert McNamara made it possible to bring these archrivals to the negotiation table.

54 Considering the South Asian scenario: Agreement between His Majesty's Government of Nepal and the Government of India on the Gandak irrigation and power project, 1996 Treaty between Nepal and India Concerning the Integrated Development of the Mahakali River Including Sarada Barrage, Tanakpur Barrage and Pancheshwar Project, Agreement between the Government of the People's Republic of Bangladesh and the Government of the Republic of India on sharing of the Ganges waters at Farakka and on augmenting its flows 1977, Treaty Between the Government of the Republic of India and the Government of the People's Republic of Bangladesh on Sharing of the Ganga/Ganges Waters at Farakka 1996, Agreement between the Government of India and the Government of Nepal on the Kosi Project, Signed at Kathmandu, April 25, 1954, Indus Waters Treaty 1960; none of these Treaties contain any specific provision on water pollution.

55 The Berlin Rules 2004 fashions a whole chapter dedicated to the protection of aquatic environment and ecological integrity, see chapter V, Berlin Rules.

56 In our present case, the Ganga is one of the world's most polluted rivers. 114 cities pour untreated sewage into India's most important river. The Ganges' tributary, Yamuna, alone drains 200 million liters of sewage and 20 million liters of industrial waste from Delhi to the mainstream. The poor water quality correlates with the occurrence of waterborne diseases such as hepatitis, amebic dysentery, typhoid, and cholera.

Nagymaros.[57] The ICJ was presented with a controversy between Hungary and Slovakia over a bi-lateral treaty on the Danube River. The case involved a dispute between Hungary and the Slovak Republic over a 1977 Treaty regulating the development of a series of installations for improving the hydro-power generation, the environment, and navigation, flood and ice control on the Danube River. The main feature of the 1977 Hungary-Czechoslovakia Treaty was the development of hydro-electric power and navigation, with projects to be carried out in each country at its own expense. The dispute arose when Hungary unilaterally suspended the work on its portion causing Czechoslovakia/Slovakia in turn to unilaterally implement "Variant C", one of the Czech/Slovak alternatives for developing the relevant section of the Danube. Variant C created a major decrease in the flow of the Danube River downstream in Hungary. Hungary attempted to unilaterally terminate the 1977 Treaty. Both countries had undergone dramatic political changes, and had determined that the project was environmentally unsound.

The ICJ deliberated the case for four years, and decided in 1997 that both Hungary and Czechoslovakia/Slovakia had committed internationally wrongful acts. The ICJ required the Parties to negotiate a settlement that would meet the objectives set out in the 1977 Treaty. The ICJ decided the case on general international treaty law, but referred to reasonable and equitable utilization and the 1997 UN Watercourses Convention.[58] The Court concluded that Hungary had a basic right to an equitable and reasonable sharing of the resources of an international watercourse which was violated by Czechoslovakia/Slovakia's implementation of Variant C.[59]

The *Gabcíkovo-Nagymaros Project Case* indicates the ICJ's endorsement of the reasonable and equitable utilization. The 1997 UN Watercourses Convention was referred to by the ICJ as evidence of the strengthening of that principle in the modern development of international law, despite its status as not being in force.

VI. Water negotiations: new considerations

A rather worrying shift in trends is taking place in the funding process of big water development projects. Projects concerning transboundary watercourse often require grand scale funding and it was the trend to seek help from international institutions such as the World Bank for funding. In our present case, the Interlinking of Rivers Project is the biggest Indian Project ever and the biggest freshwater development project of the world. India is trying to get help from the World Bank and negotiating with the government of Texas to get technical help in attaining its goal.[60] The World Bank and all other such institutions have adopted a common policy not to fund any project where all the riparian states are not consenting. But the worrying shift in

---

57 Case concerning the Gabcíkovo-Nagymaros Project (Hungary/Slovakia), ICJ Reports 1997, 7.

58 Ibid., 56, para. 85; 80, para. 147.

59 Ibid., 56, para. 85.

60 Suresh Prabhu, Chairman of the Task Force on the project, met Gwyen Shea, Texas Secretary of State, in June 2003 and requested cooperation in obtaining World Bank loans for the project.

trend is that globalization and the resultant emergence of giant multinational corporations have allowed state mechanisms to avoid that obstacle when pursuing anti-people and/or anti-environment projects by including those multinational corporations in the project. The most controversial projects of today—Turkey's GAP project, India's Narmada River project, and China's Three Gorges Dam—are all proceeding through the studied avoidance of development banks.[61]

Another interesting point is the existing criteria of water negotiations. The focus of transboundary water negotiations was solely *right* based. Observers think the focus is shifting towards a *need* based approach.[62] This need is broken down into three main categories, namely: domestic use, industrial use and use in the agriculture. But we all seem to ignore the role that watercourses play in our ecosystems. For example, any diversion of flow from the GBM water basin will permanently harm the rich fishery of the Bay of Bengal, will destroy the largest mangrove forest of the world (which is a World Heritage Site), and will stop the natural growing process of the Bengal Delta. This is not to mention the desertification process that is already evident in the northern parts of Bangladesh as a result of the Indian Farakka dam on the Ganga River.[63]

VII. Conclusion

International water law is a branch of international law, which has just entered its phase of transformation to become functional in a true sense. The availability of new technologies[64] to monitor and analyze data related to water have made it much easier to transcend the political veil and touch the heart of the actual problem: the suffering of the people of the water scarce region and the devastation of the ecology often caused by short sighted water development programs.

Under current circumstances, the government of Bangladesh will probably try

---

61 Aaron T. Wolf, Conflict and Cooperation: Survey of the Past and Reflection for the Future, Oregon State University, Oregon, 2002.

62 Examples include the Israel-Palestine Agreement of 1995, where Israel first recognized Palestinian water rights on the West Bank. A formula for agriculture and per capita consumption determined future Palestinian water needs at 70-80 MCM/yr. and Israel agreed to provide 28.6 MCM/yr. towards those needs.

63 "The north of Bangladesh is already drying out after the Ganges was dammed by India in 1976. Now India is planning to do the same on [many of] the 53 other rivers that enter the country via India. Bangladesh depends completely on water…We want no kind of war, but international law on sharing water is unsure and we would request the UN to frame a new law. It would be a last resort." Hafiz Ahmad, the water resources minister of Bangladesh, as quoted by John Vidal, The Guardian, 24 July 2003.

64 Modular modeling systems (MMS's) such as STELLA, Waterware, and Riverware can now be used for comprehensive modeling of hydrologic and human systems; GIS and remote sensing allow several spatial data layers, encompassing biophysical, socioeconomic, and geopolitical parameters, to be viewed and analyzed graphically. Real time monitoring tools, such as radio-controlled gauging stations, add new options for real time management, and allocations based on existing hydrologic settings rather than fixed quantities. Graphical user interfaces (GUIs) allow for each component to be brought together into an intuitive, user-friendly setting.

to engage India in a fruitful discussion to stop the Interlinking of Rivers Project and the resultant devastation, as that is the only option available. But decades of experience have made the stakeholders cynical about bilateral negotiations. After successful examples of the Danube Commission, the Nile Basin Agreement and the recent Mekong Basin Treaty, it is now widely accepted that transboundary watercourses are best managed if a basin-wide approach is taken. For a permanent solution to the GBM basin problem, which is threatening the historical bondage of the people nourished by "Mother Ganga" for centuries, the inclusion of all the water courses states in the negotiation is inevitable. The 1997 UN Convention can and should play the guiding role here and in all other transboundary watercourses disputes, as was originally envisaged.[65] The ICJ in the *Gabcíkovo-Nagymaros Project Case* has shown that this Convention is the statement of international law in this field, even though it is not in force yet. It should be the statement of law in our case as well, even though India is not a signatory, as it embodies customary rules of international law.

---

65 Dr. Patricia Wouters, The Legal Response to International Water Conflicts: The UN Watercourse Convention and Beyond, 42 German YIL (1999), 293.